

EV549569768

PTO/SB/17 (12-04)  
Approved for use through 07/31/2006. OMB 0651-0032  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995 no persons are required to respond to a collection of information unless it displays a valid OMB control number

Effective on 12/08/2004.  
Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

# FEE TRANSMITTAL For FY 2005

☒ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ ) 180.00

## Complete if Known

Application Number	10/769,543
Filing Date	January 30, 2004
First Named Inventor	Tilton et al.
Examiner Name	Boris Leo Chervinsky
Art Unit	2835
Attorney Docket No.	IS9-020

## METHOD OF PAYMENT (check all that apply)

☒ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): #147376

☒ Deposit Account Deposit Account Number: 23-0925 Deposit Account Name: Wells St. John P.S.

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, except for the filing fee  
☒ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17 ☒ Credit any overpayments

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

## FEE CALCULATION

### 1. BASIC FILING, SEARCH, AND EXAMINATION FEES

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

### 2. EXCESS CLAIM FEES

Fee Description	Fee (\$)	Small Entity Fee (\$)
Each claim over 20 or, for Reissues, each claim over 20 and more than in the original patent	50	25
Each independent claim over 3 or, for Reissues, each independent claim more than in the original patent	200	100
Multiple dependent claims	360	180

**Total Claims**      **Extra Claims**      **Fee (\$)**      **Fee Paid (\$)**      **Multiple Dependent Claims**  
- 20 or HP = \_\_\_\_\_ x \_\_\_\_\_ = \_\_\_\_\_      **Fee (\$)**      **Fee Paid (\$)**  
HP = highest number of total claims paid for, if greater than 20  
**Indep. Claims**      **Extra Claims**      **Fee (\$)**      **Fee Paid (\$)**  
- 3 or HP = \_\_\_\_\_ x \_\_\_\_\_ = \_\_\_\_\_  
HP = highest number of independent claims paid for, if greater than 3

### 3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

**Total Sheets**      **Extra Sheets**      **Number of each additional 50 or fraction thereof**      **Fee (\$)**      **Fee Paid (\$)**  
- 100 = \_\_\_\_\_ / 50 = \_\_\_\_\_ (round up to a whole number) x \_\_\_\_\_ = \_\_\_\_\_

### 4. OTHER FEE(S)

Non-English Specification, \$130 fee (no small entity discount)

Other: Information Disclosure Statement

Fees Paid (\$)

\$180.00

## SUBMITTED BY

Signature		Registration No. 32,356 (Attorney/Agent)	Telephone 509/624-4276
Name (Print/Type)	Mark W. Hendricksen	Date	8-8-05

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



EV549569768

Application Serial No. .... 10/769,543  
Filing Date ..... January 30, 2004  
Inventor ..... Tilton et al.  
Assignee ..... Isothermal Systems Research, Inc.  
Group Art Unit ..... 2835  
Examiner ..... Boris Leo Chervinsky  
Attorney Docket No. .... IS9-020  
Title: Three Dimensional Packaging and Cooling of Mixed Signal, Mixed  
Power Density Electronic Modules

**INFORMATION DISCLOSURE STATEMENT**  
**PURSUANT TO 37 C.F.R. §§ 1.56, 1.97 AND 1.98**


In compliance with 37 C.F.R. §§ 1.56, 1.97 and 1.98, your attention is directed to the United States patents and other references listed on the attached Form PTO/SB/08A-08B. No admission is made regarding whether all the submitted references are prior art.

Copies of the cited art are included with the exception of United States patents and published United States applications (1273 Off. Gaz. Pat. Off. 55, 05 August 2003).

Citation of these references is respectfully requested.

Respectfully submitted,

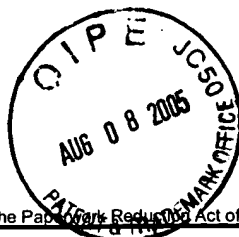
Dated: 8-8-05

By:   
Mark W. Hendricksen  
Reg. No. 32,356

08/11/2005 CNGUYEN2 00000011 10769543

01 FC:1806

180.00 OP



EV549569768

PTO/SB/08A (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Patent Mark Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1

of 3

**Complete if Known**

Application Number	10/769,543
Filing Date	January 30, 2004
First Named Inventor	Tilton et al.
Art Unit	2835
Examiner Name	Boris Leo Chervinsky
Attorney Docket Number	IS9-020

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
	1	US- 3,577,024	05/04/1971	Inagaki et al.	
	2	US- 3,659,125	04/25/1972	Basel	
	3	US- 3,733,503	05/15/1973	Potter	
	4	US- 4,198,191	04/15/1980	Pierce	
	5	US- 4,329,603	05/11/1982	Ballard	
	6	US- 4,611,137	09/09/1986	Sutrina	
	7	US- 4,692,826	09/08/1987	Raj et al.	
	8	US- 5,220,804	06/22/1993	Tilton et al.	
	9	US- 5,251,097	10/05/1993	Simmons et al.	
	10	US- 5,314,529	05/24/1994	Tilton et al.	
	11	US- 5,675,473	10/07/1997	McDunn et al.	
	12	US- 5,684,352	11/04/1997	Mita et al.	
	13	US- 5,713,327	02/03/1998	Tilton et al.	
	14	US- 5,719,444	02/17/1998	Tilton et al.	
	15	US- 5,860,602	01/19/1999	Tilton et al.	
	16	US- 5,880,931	03/09/1999	Tilton et al.	
	17	US- 5,933,700	08/03/1999	Tilton	
	18	US- 6,016,969	01/25/2000	Tilton et al.	
	19	US- 6,104,610	08/15/2000	Tilton et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				

Examiner  
SignatureDate  
Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

<p>Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.</p> <p>Substitute for form 1449/PTO</p> <p style="text-align: center; font-size: 1.2em; font-weight: bold;">INFORMATION DISCLOSURE STATEMENT BY APPLICANT</p> <p style="text-align: center; font-style: italic;">(Use as many sheets as necessary)</p>		<p style="text-align: center; font-weight: bold;">Complete if Known</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Application Number</td> <td>10/769,543</td> </tr> <tr> <td>Filing Date</td> <td>January 30, 2004</td> </tr> <tr> <td>First Named Inventor</td> <td>Tilton et al.</td> </tr> <tr> <td>Art Unit</td> <td>2835</td> </tr> <tr> <td>Examiner Name</td> <td>Boris Leo Chervinsky</td> </tr> <tr> <td>Attorney Docket Number</td> <td>IS9-020</td> </tr> </table>		Application Number	10/769,543	Filing Date	January 30, 2004	First Named Inventor	Tilton et al.	Art Unit	2835	Examiner Name	Boris Leo Chervinsky	Attorney Docket Number	IS9-020
Application Number	10/769,543														
Filing Date	January 30, 2004														
First Named Inventor	Tilton et al.														
Art Unit	2835														
Examiner Name	Boris Leo Chervinsky														
Attorney Docket Number	IS9-020														

[illegible][illegible]

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

*If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.*

Substitute for form 1449/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)		<b>Complete if Known</b>	
		Application Number	10/769,543
		Filing Date	January 30, 2004
		First Named Inventor	Tilton et al.
		Art Unit	2834
Examiner Name	Boris Leo Chervinsky		
Sheet 3	of 3	Attorney Docket Number	IS9-020

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	25	Advanced Thermal Management System for General Motors Power Inverter Module	
	26	Ray, W.F., et al., "High Performance Switched Reluctance Brushless DC Drivers", IEEE Transactions On Industry Applications, Vol. 1A-22, p. 722, 1986.	
	27	Bose, B.K., et al., "Microcomputer Control of Switched Reluctance Motor", IEEE Transactions On Industry Applications, Vol. 1A-22, p. 708, 1986.	
	28	Moallem, M., et al., "Effect of Rotor Profiles on the Torque of a Switched Reluctance Motor", IEEE Transactions On Industry, Applications, Vol. 28, p. 364, 1992.	
	29	Harris, M.R., et al., "Review of the Integral-Horsepower Switched Reluctance Drive", IEEE Transactions On Industry Applications, Vol. 1A-22, p. 716, 1986.	
	30	Tilton, D.E., Charles, C.L., Pais, M.R., and Morgan, M.J., "High-Flux Spray Cooling in a Simulated Multichip Module", HTD Vol., 206-2, pp. 73-79, ASME National Heat Transfer Conf., August 9-12, San Diego, CA, 1992.	
	31	Tilton, D.E., Chow, L.C., and Mahefkey, E.T., "High Power Density Evaporative Cooling", AIAA-87-1536, 22nd AIAA Thermophysics, Conference, Honolulu, Hawaii, June 1987.	
	32	Tilton, D.E., Ambrose, J.H., and Chow, L.C., "Closed-System, High-Flux Evaporative Spray Cooling", SAE Paper 892316, Aerotech 89, Anaheim, CA.	
	33	Tilton, D.E., Spray Cooling, Ph.D. Dissertation, University of Kentucky, Dept. of Mechanical Engineering, 1989.	
	34	Tilton, D.E., Chow, L.C., Mahefkey, E.T., and Switzer, G., "Critical Heat Flux Phenomena in Spray Cooling", AIAA Paper 90-1729, AIAA/ASME 5th Joint Thermophysics and Heat Transfer Conf., Seattle, WA, June 18-20, 1990.	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO:

Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.